

RECEIVED
FEB 14 2003
TECH CENTER 1600/2900
1600

RAW SEQUENCE LISTING
PATENT APPLICATION: US/08/981,087B DATE: 02/03/2003
TIME: 11:00:05

Input Set : A:\SEQ LIST.txt
Output Set: N:\CRF4\02032003\H981087B.raw

SEQUENCE LISTING

- 4 (1) GENERAL INFORMATION:
 - 6 (i) APPLICANT: Elmore, Michael J.
Mauchline, Margaret L.
Minton, Nigel P.
Pasechnik, Vladimir A.
Titball, Richard W.
 - 12 (ii) TITLE OF INVENTION: TYPE F BOTULINUM TOXIN AND USE THEREOF
 - 14 (iii) NUMBER OF SEQUENCES: 8
 - 16 (iv) CORRESPONDENCE ADDRESS:
 - 17 (A) ADDRESSEE: NIXON & VANDERHYE P.C.
 - 18 (B) STREET: 1100 North Glebe Rd. 8th floor
 - 19 (C) CITY: Arlington
 - 20 (D) STATE: VA
 - 21 (E) COUNTRY: USA
 - 22 (F) ZIP: 22201-4741
 - 24 (v) COMPUTER READABLE FORM:
 - 25 (A) MEDIUM TYPE: Floppy disk
 - 26 (B) COMPUTER: IBM PC compatible
 - 27 (C) OPERATING SYSTEM: PC-DOS/MS-DOS
 - 28 (D) SOFTWARE: PatentIn Release #1.0, Version #1.30
 - 30 (vi) CURRENT APPLICATION DATA:
 - C--> 31 (A) APPLICATION NUMBER: US/08/981,087B
 - C--> 32 (B) FILING DATE: 27-May-1998
 - 33 (C) CLASSIFICATION:
 - 39 (vii) PRIOR APPLICATION DATA:
 - 36 (A) APPLICATION NUMBER: PCT/GB96/01409
 - 37 (B) FILING DATE: 12-JUN-1996
 - 40 (A) APPLICATION NUMBER: GB 9511909.5
 - 41 (B) FILING DATE: 12-JUN-1995
 - 43 (viii) ATTORNEY/AGENT INFORMATION:
 - 44 (A) NAME: Crawford, Arthur R.
 - 45 (B) REGISTRATION NUMBER: 25,327
 - 46 (C) REFERENCE/DOCKET NUMBER: 124-688
 - 48 (ix) TELECOMMUNICATION INFORMATION:
 - 49 (A) TELEPHONE: 703-816-4000
 - 50 (B) TELEFAX: 703-816-4100
 - 53 (2) INFORMATION FOR SEQ ID NO: 1:
 - 55 (i) SEQUENCE CHARACTERISTICS:
 - 56 (A) LENGTH: 431 amino acids
 - 57 (B) TYPE: amino acid
 - 58 (C) STRANDEDNESS:
 - 59 (D) TOPOLOGY: linear

ENTERED

RAW SEQUENCE LISTING
PATENT APPLICATION: US/08/981,087B

DATE: 02/03/2003
 TIME: 11:00:05

Input Set : A:\SEQ_LIST.txt
 Output Set: N:\CRF4\02032003\H981087B.raw

61 (ii) MOLECULE TYPE: peptide
 66 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 1:
 68 Ser Tyr Thr Asn Asp Lys Ile Leu Ile Leu Tyr Phe Asn Lys Leu Tyr
 69 1 5 10 15
 71 Lys Lys Ile Lys Asp Asn Ser Ile Leu Asp Met Arg Tyr Glu Asn Asn
 72 20 25 30
 74 Lys Phe Ile Asp Ile Ser Gly Tyr Gly Ser Asn Ile Ser Ile Asn Gly
 75 35 40 45
 77 Asp Val Tyr Ile Tyr Ser Thr Asn Arg Asn Gln Phe Gly Ile Tyr Ser
 78 50 55 60
 80 Ser Lys Pro Ser Glu Val Asn Ile Ala Gln Asn Asn Asp Ile Ile Tyr
 81 65 70 75 80
 83 Asn Gly Arg Tyr Gln Asn Phe Ser Ile Ser Phe Trp Val Arg Ile Pro
 84 85 90 95
 86 Lys Tyr Phe Asn Lys Val Asn Leu Asn Asn Glu Tyr Thr Ile Ile Asp
 87 100 105 110
 89 Cys Ile Arg Asn Asn Ser Gly Trp Lys Ile Ser Leu Asn Tyr Asn
 90 115 120 125
 92 Lys Ile Ile Trp Thr Leu Gln Asp Thr Ala Gly Asn Asn Gln Lys Leu
 93 130 135 140
 95 Val Phe Asn Tyr Thr Gln Met Ile Ser Ile Ser Asp Tyr Ile Asn Lys
 96 145 150 155 160
 98 Trp Ile Phe Val Thr Ile Thr Asn Asn Arg Leu Gly Asn Ser Arg Ile
 99 165 170 175
 101 Tyr Ile Asn Gly Asn Leu Ile Asp Glu Lys Ser Ile Ser Asn Leu Gly
 102 180 185 190
 104 Asp Ile His Val Ser Asp Asn Ile Leu Phe Lys Ile Val Gly Cys Asn
 105 195 200 205
 107 Asp Thr Arg Tyr Val Gly Ile Arg Tyr Phe Lys Val Phe Asp Thr Glu
 108 210 215 220
 110 Leu Gly Lys Thr Glu Ile Glu Thr Leu Tyr Ser Asp Glu Pro Asp Pro
 111 225 230 235 240
 113 Ser Ile Leu Lys Asp Phe Trp Gly Asn Tyr Leu Leu Tyr Asn Lys Arg
 114 245 250 255
 116 Tyr Tyr Leu Leu Asn Leu Leu Arg Thr Asp Lys Ser Ile Thr Gln Asn
 117 260 265 270
 119 Ser Asn Phe Leu Asn Ile Asn Gln Gln Arg Gly Val Tyr Gln Lys Pro
 120 275 280 285
 122 Asn Ile Phe Ser Asn Thr Arg Leu Tyr Thr Gly Val Glu Val Ile Ile
 123 290 295 300
 125 Arg Lys Asn Gly Ser Thr Asp Ile Ser Asn Thr Asp Asn Phe Val Arg
 126 305 310 315 320
 128 Lys Asn Asp Leu Ala Tyr Ile Asn Val Val Asp Arg Asp Val Glu Tyr
 129 325 330 335
 131 Arg Leu Tyr Ala Asp Ile Ser Ile Ala Lys Pro Glu Lys Ile Ile Lys
 132 340 345 350
 134 Leu Ile Arg Thr Ser Asn Ser Asn Asn Ser Leu Gly Gln Ile Ile Val
 135 355 360 365
 137 Met Asp Ser Ile Gly Asn Asn Cys Thr Met Asn Phe Gln Asn Asn Asn

RAW SEQUENCE LISTING
PATENT APPLICATION: US/08/981,087B

DATE: 02/03/2003
TIME: 11:00:05

Input Set : A:\SEQ_LIST.txt
Output Set: N:\CRF4\02032003\H981087B.raw

138	370	375	380
140	Gly Gly Asn Ile Gly Leu Leu Gly Phe His Ser Asn Asn Leu Val Ala		
141	385	390	395 400
143	Ser Ser Trp Tyr Tyr Asn Asn Ile Arg Lys Asn Thr Ser Ser Asn Gly		
144	405	410	415
146	Cys Phe Trp Ser Phe Ile Ser Lys Glu His Gly Trp Gln Glu Asn		
147	420	425	430

149 (2) INFORMATION FOR SEQ ID NO: 2:

151 (i) SEQUENCE CHARACTERISTICS:

- 152 (A) LENGTH: 144 amino acids
- 153 (B) TYPE: amino acid
- 154 (C) STRANDEDNESS:
- 155 (D) TOPOLOGY: linear

157 (ii) MOLECULE TYPE: peptide

162 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 2:

164	Ser Tyr Thr Asn Asp Lys Ile Leu Ile Leu Tyr Phe Asn Lys Leu Tyr		
165	1	5	10 15
167	Lys Lys Ile Lys Asp Asn Ser Ile Leu Asp Met Arg Tyr Glu Asn Asn		
168	20	25	30
170	Lys Phe Ile Asp Ile Ser Gly Tyr Gly Ser Asn Ile Ser Ile Asn Gly		
171	35	40	45
173	Asp Val Tyr Ile Tyr Ser Thr Asn Arg Asn Gln Phe Gly Ile Tyr Ser		
174	50	55	60
176	Ser Lys Pro Ser Glu Val Asn Ile Ala Gln Asn Asn Asp Ile Ile Tyr		
177	65	70	75 80
179	Asn Gly Arg Tyr Gln Asn Phe Ser Ile Ser Phe Trp Val Arg Ile Pro		
180	85	90	95
182	Lys Tyr Phe Asn Lys Val Asn Leu Asn Asn Glu Tyr Thr Ile Ile Asp		
183	100	105	110
185	Cys Ile Arg Asn Asn Ser Gly Trp Lys Ile Ser Leu Asn Tyr Asn		
186	115	120	125
188	Lys Ile Ile Trp Thr Leu Gln Asp Thr Ala Gly Asn Asn Gln Lys Leu		
189	130	135	140

192 (2) INFORMATION FOR SEQ ID NO: 3:

194 (i) SEQUENCE CHARACTERISTICS:

- 195 (A) LENGTH: 144 amino acids
- 196 (B) TYPE: amino acid
- 197 (C) STRANDEDNESS:
- 198 (D) TOPOLOGY: linear

200 (ii) MOLECULE TYPE: peptide

205 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 3:

207	Val Phe Asn Tyr Thr Gln Met Ile Ser Ile Ser Asp Tyr Ile Asn Lys		
208	1	5	10 15
210	Trp Ile Phe Val Thr Ile Thr Asn Asn Arg Leu Gly Asn Ser Arg Ile		
211	20	25	30
213	Tyr Ile Asn Gly Asn Leu Ile Asp Glu Lys Ser Ile Ser Asn Leu Gly		
214	35	40	45
216	Asp Ile His Val Ser Asp Asn Ile Leu Phe Lys Ile Val Gly Cys Asn		
217	50	55	60

RAW SEQUENCE LISTING
 PATENT APPLICATION: US/08/981,087B

DATE: 02/03/2003
 TIME: 11:00:05

Input Set : A:\SEQ_LIST.txt
 Output Set: N:\CRF4\02032003\H981087B.raw

219 Asp Thr Arg Tyr Val Gly Ile Arg Tyr Phe Lys Val Phe Asp Thr Glu
 220 65 70 75 80
 222 Leu Gly Lys Thr Glu Ile Glu Thr Leu Tyr Ser Asp Glu Pro Asp Pro
 223 85 90 95
 225 Ser Ile Leu Lys Asp Phe Trp Gly Asn Tyr Leu Leu Tyr Asn Lys Arg
 226 100 105 110
 228 Tyr Tyr Leu Leu Asn Leu Leu Arg Thr Asp Lys Ser Ile Thr Gln Asn
 229 115 120 125
 231 Ser Asn Phe Leu Asn Ile Asn Gln Gln Arg Gly Val Tyr Gln Lys Pro
 232 130 135 140

235 (2) INFORMATION FOR SEQ ID NO: 4:

237 (i) SEQUENCE CHARACTERISTICS:
 238 (A) LENGTH: 143 amino acids
 239 (B) TYPE: amino acid
 240 (C) STRANDEDNESS:
 241 (D) TOPOLOGY: linear

243 (ii) MOLECULE TYPE: peptide

248 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 4:

250 Asn Ile Phe Ser Asn Thr Arg Leu Tyr Thr Gly Val Glu Val Ile Ile
 251 1 5 10 15
 253 Arg Lys Asn Gly Ser Thr Asp Ile Ser Asn Thr Asp Asn Phe Val Arg
 254 20 25 30
 256 Lys Asn Asp Leu Ala Tyr Ile Asn Val Val Asp Arg Asp Val Glu Tyr
 257 35 40 45
 259 Arg Leu Tyr Ala Asp Ile Ser Ile Ala Lys Pro Glu Lys Ile Ile Lys
 260 50 55 60
 262 Leu Ile Arg Thr Ser Asn Ser Asn Asn Ser Leu Gly Gln Ile Ile Val
 263 65 70 75 80
 265 Met Asp Ser Ile Gly Asn Asn Cys Thr Met Asn Phe Gln Asn Asn Asn
 266 85 90 95
 268 Gly Gly Asn Ile Gly Leu Leu Gly Phe His Ser Asn Asn Leu Val Ala
 269 100 105 110
 271 Ser Ser Trp Tyr Tyr Asn Asn Ile Arg Lys Asn Thr Ser Ser Asn Gly
 272 115 120 125
 274 Cys Phe Trp Ser Phe Ile Ser Lys Glu His Gly Trp Gln Glu Asn
 275 130 135 140

277 (2) INFORMATION FOR SEQ ID NO: 5:

279 (i) SEQUENCE CHARACTERISTICS:
 280 (A) LENGTH: 1293 base pairs
 281 (B) TYPE: nucleic acid
 282 (C) STRANDEDNESS: double
 283 (D) TOPOLOGY: linear

285 (ii) MOLECULE TYPE: DNA (genomic)

290 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 5:

292 TCATATACTA ATGATAAAAT TCTAATTAA TATTTAATA AATTATATAA AAAAATTAAA	60
294 GATAACTCTA TTTTAGATAT GCGATATGAA ATAATAAAAT TTATAGATAT CTCTGGATAT	120
296 GGTCAAATA TAAGCATTAA TGGAGATGTA TATATTATT CAACAAATAG AAATCAATT	180
298 GGAATATATA GTAGTAAGCC TAGTGAAGTT AATATAGCTC AAAATAATGA TATTATATAC	240
300 AATGGTAGAT ATCAAATTT TAGTATTAGT TTCTGGTAA GGATTCCCAA ATACTTCAAAT	300

RAW SEQUENCE LISTING
PATENT APPLICATION: US/08/981,087B

DATE: 02/03/2003
TIME: 11:00:05

Input Set : A:\SEQ_LIST.txt
Output Set: N:\CRF4\02032003\H981087B.raw

302	AAAGTGAATC	TTAATAATGA	ATATACTATA	ATAGATTGTA	TAAGGAATAA	TAATTCAAGGA	360
304	TGGAAAATAT	CACTTAATTA	TAATAAAAATA	ATTTGGACTT	TACAAGATAC	TGCTGGAAAT	420
306	AATCAAAAAC	TAGTTTTAA	TTATACACAA	ATGATTAGTA	TATCTGATTA	TATAAATAAA	480
308	TGGATTTTTG	TAACTATTAC	TAATAATAGA	TTAGGCAATT	CTAGAATTAA	CATCAATGGA	540
310	AATTAAATAG	ATGAAAAATC	AATTTCGAAT	TTAGGTGATA	TTCATGTTAG	TGATAATATA	600
312	TTATTTAAAA	TTGTTGGGTG	TAATGATACA	AGATATGTTG	GTATAAGATA	TTTAAAGTT	660
314	TTTGATACGG	AATTAGGTAA	AACAGAAATT	GAGACTTTAT	ATAGTGTGTA	GCCAGATCCA	720
316	AGTATCTAA	AAGACTTTG	GGGAAATTAT	TTGTTATATA	ATAAAAGATA	TTATTTATTG	780
318	AATTACTAA	GAACAGATAA	GTCTATTACT	CAGAATTCAA	ACTTTCTAAA	TATTAATCAA	840
320	CAAAGAGGTG	TTTATCAGAA	ACCAAATATT	TTTCCAAACA	CTAGATTATA	TACAGGAGTA	900
322	GAAGTTATTA	TAAGAAAAAA	TGGATCTACA	GATATATCTA	ATACAGATAA	TTTGTAGA	960
324	AAAAATGATC	TGGCATATAT	TAATGTAGTA	GATCGTGATG	TAGAATATCG	GCTATATGCT	1020
326	GATATATCAA	TTGCAAAACC	AGAGAAAATA	ATAAAATTAA	TAAGAACATC	TAATTCAAAC	1080
328	AATAGCTTAG	GTCAAATTAT	AGTTATGGAT	TCAATAGGAA	ATAATTGCAC	AATGAATTTT	1140
330	CAAAACAATA	ATGGGGCAA	TATAGGATTA	CTAGGTTTTC	ATTCAAATAA	TTTGGTTGCT	1200
332	AGTAGTTGGT	ATTATAACAA	TATACGAAAA	AATACTAGCA	GTAATGGATG	CTTTGGAGT	1260
334	TTTATTCTA	AAGAGCATGG	ATGGCAAGAA	AAC			1293
336	(2) INFORMATION FOR SEQ ID NO: 6:						
338	(i) SEQUENCE CHARACTERISTICS:						
339	(A) LENGTH: 1313 base pairs						
340	(B) TYPE: nucleic acid						
341	(C) STRANDEDNESS: double						
342	(D) TOPOLOGY: linear						
344	(ii) MOLECULE TYPE: DNA (genomic)						
349	(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 6:						
351	GGATCCATAT	GTCTTACACT	AACGACAAAA	TCCTGATCCT	GTACTTCAAC	AAACTGTACA	60
353	AAAAAAATCAA	AGACAACTCT	ATCCTGGACA	TGCGTTACGA	AAACAACAAA	TTCATCGACA	120
355	TCTCTGGCTA	TGGTTCTAAC	ATCTCTATCA	ACGGTGACGT	CTACATCTAC	TCTACTAAC	180
357	GCAACCAAGTT	CGGTATCTAC	TCTTCTAAAC	CGTCTGAAGT	AAACATCGCT	CAGAACAAACG	240
359	ACATCATCTA	CAACGGTCGT	TACAGAACT	TCTCTATCTC	TTTCTGGGTT	CGTATCCCGA	300
361	AATACTTCAA	CAAAGTTAAC	CTGAACAAACG	AATACACTAT	CATCGACTGC	ATCCGTAACA	360
363	ACAACCTCTGG	TTGGAAAATC	TCTCTGAAC	ACAACAAAAT	CATCTGGACT	CTGCAGGACA	420
365	CTGCTGGTAA	CAACCAGAAA	CTGGTTTCA	ACTACACTCA	GATGATCTCT	ATCTCTGACT	480
367	ACATTAATAA	ATGGATCTTC	GTTACTATCA	CTAACAAACCG	TCTGGGTAAC	TCTCGTATCT	540
369	ACATCAACGG	TAACCTGATC	GATGAAAAT	CTATCTCTAA	CCTGGGTGAC	ATCCACGTT	600
371	CTGACAACAT	CCTGTTAAA	ATCGTGGTT	GCAACGACAC	GCGTTACGTT	GGTATCCGTT	660
373	ACTTCAAAGT	TTTCGACACT	GAACCTGGTA	AAACTGAAAT	CGAAACTCTG	TACTCTGACG	720
375	AACCGGACCC	GTCTATCTG	AAAGACTTCT	GGGGTAACTA	CCTGCTGTAC	AACAAACGTT	780
377	ACTACCTGCT	GAACCTGCTC	CGGACTGACA	AATCTATCAC	TCAGAACTCT	AACTTCCTGA	840
379	ACATCAACCA	GCAGCGTGGT	GTTTATCAGA	AACCTAATAT	CTTCTCTAAC	ACTCGTCTGT	900
381	ACACTGGTGT	TGAAGTTATC	ATCCGTAAAA	ACGGTTCTAC	TGACATCTCT	AAACACTGACA	960
383	ACTTCGTACG	AAAAAACGAC	CTGGCTTACA	TCAACGTTGT	TGACCGTGAC	GTTGAATACC	1020
385	GTCTGTACGC	TGACATCTCT	ATCGCTAAAC	CGGAAAAAAAT	CATCAAACGT	ATCCGTACTT	1080
387	CTAACTCTAA	CAACTCTCTG	GGTCAGATCA	TCGTTATGGA	CTCGATCGGT	AAACAATGCA	1140
389	CTATGAACTT	CCAGAACAAAC	AACGGTGGTA	ACATCGGTCT	GCTGGGTTTC	CACTCTAAC	1200
391	ACCTGGTTGC	TTCTTCTGG	TACTACAACA	ACATCCGTAA	AAACACTTCT	TCTAACGGTT	1260
393	GCTTCTGGTC	TTTCATCTCT	AAAGAACACG	GTTGGCAGGA	AAACTAATCT	AGA	1313
396	(2) INFORMATION FOR SEQ ID NO: 7:						
398	(i) SEQUENCE CHARACTERISTICS:						

VERIFICATION SUMMARY

PATENT APPLICATION: US/08/981,087B

DATE: 02/03/2003

TIME: 11:00:06

Input Set : A:\SEQ_LIST.txt

Output Set: N:\CRF4\02032003\H981087B.raw

L:31 M:220 C: Keyword misspelled or invalid format, [(A) APPLICATION NUMBER:]
L:32 M:220 C: Keyword misspelled or invalid format, [(B) FILING DATE:]